

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

FRANCE TELECOM S.A.,

Plaintiff,

v.

MARVELL SEMICONDUCTOR INC.,

Defendant.

Case No. [12-cv-04967-WHO](#)

**ORDER ON MARVELL’S MOTION
FOR SUMMARY JUDGMENT**

Re: Dkt. No. 137

Defendant Marvell Semiconductor, Inc. (“Marvell”), moves for summary judgment that U.S. Patent 5,446,747 (“the ‘747 Patent”) is invalid because Claims 1 and 10 are merely mathematical algorithms or abstract ideas, and are not transformative or limited applications of those algorithms or ideas, and therefore fail to claim patent-eligible subject matter under 35 U.S.C. § 101. Marvell also seeks partial summary judgment on the issue of whether it is liable to plaintiff France Telecom S.A. (“France Telecom”) for sales of allegedly infringing chips¹ sold abroad by a non-party affiliate, Marvell Asia Pte. Ltd. (“MAPL”). Because Claims 1 and 10 recite an application of an abstract idea, rather than an abstract idea alone, Marvell’s motion for summary judgment to invalidate the claims is DENIED. Because France Telecom cannot seek damages based on a third party’s infringement outside the United States, Marvell’s motion for partial summary judgment concerning its liability for the accused chips is GRANTED.

BACKGROUND

I. THE ‘747 PATENT

The ‘747 Patent “involves methods commonly referred to as ‘turbo coding’ for correcting

¹ I will refer to the subset of products for which Marvell seeks partial summary judgment the “accused chips.”

errors in telecommunication and other data transmissions.” *France Telecom, S.A. v. Marvell Semiconductor, Inc.*, No. 12-cv-4967, 2014 WL 1007449, at *1 (N.D. Cal. Mar. 12, 2014). The technology claimed allows for more accurate and efficient data transmission and cellular communication. *See id.* at *3. The patent expired on August 29, 2012. *See* Rycroft Decl. (Dkt. No. 137) Ex. 1; 35 U.S.C. § 154(a)(2).

Claim 1 of the patent recites the following:

1. A method for error-correction coding of source digital data elements, comprising the steps of:

implementing at least two independent and parallel steps of systematic convolutional coding, each of said coding steps taking account of all of said source data elements and providing parallel outputs of distinct series of coded data elements;

and temporally interleaving said source data elements to modify the order in which said source data elements are taken into account for at least one of said coding steps.

‘747 Patent 14:46-56.

Claim 10 is dependent on Claim 1 and recites the following:

10. A method for decoding received digital data elements representing source data elements coded according to the coding method of claim 1, wherein said decoding method comprises an iterative decoding procedure comprising the steps of:

in a first iteration, combining each of said received digital data elements with a predetermined value to form an intermediate data element,

decoding the intermediate data element representing each received data element to produce a decoded data element,

estimating said source data element, by means of said decoded data element, to produce an estimated data element,

and for all subsequent iterations, combining each of said received data elements with one of said estimated data elements estimated during a preceding iteration.

‘747 Patent 15:15-42.

II. THE SALE OF ACCUSED CHIPS

MAPL is a Singapore corporation with operations based in Singapore. Matukaitis Decl.

¶ 10. Marvell and MAPL are both subsidiaries of Marvell Technology Group, Ltd. (“MTGL”).

Matukaitis Decl. ¶ 11. Neither MAPL nor MTGL are defendants in this action. MAPL, like Marvell, does not manufacture its own semiconductors. Rather, its chips are manufactured by third-parties primarily based in [REDACTED]. Matukaitis Decl. ¶ 12. MAPL's customers submit purchase orders to MAPL [REDACTED], the chips are then manufactured [REDACTED] and delivered to MAPL's customers. See Matukaitis Decl. ¶¶ 12-13. [REDACTED]

[REDACTED]

[REDACTED]. Matukaitis Decl. ¶ 16. According to MAPL's standard terms and conditions for purchases, [REDACTED]

[REDACTED]

[REDACTED]

Rycroft Decl. Ex. 3; Matukaitis Decl. ¶ 13.

France Telecom's damages consultant, Bradford Cornell, argues that Marvell may be liable for royalties exceeding [REDACTED] units. Mot. (Dkt. No. 135-4) 6. Marvell contends, however, that [REDACTED] of those units were produced and sold by MAPL abroad and should therefore be excluded from the damages calculation.

PROCEDURAL HISTORY

France Telecom filed this action on June 26, 2012, in the United States District Court for the Southern District of New York. Dkt. No. 1. On September 24, 2012, the action was transferred to this Court. Dkt. No. 30. On February 27, 2014, Marvell filed this motion. Dkt. No. 135. On March 12, 2014, I issued a *Markman* order construing certain disputed terms. Dkt. No. 141. A hearing was held on this motion on April 9, 2014.

LEGAL STANDARD

Summary judgment is proper "if the pleadings, the discovery and disclosure materials on file, and any affidavits show that there is no genuine issue as to any material fact and that the movant is entitled to judgment as a matter of law." FED. R. CIV. P. 56(a). The moving party bears the initial burden of demonstrating the absence of a genuine issue of material fact. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). In deciding a summary judgment motion, the court must view the evidence in the light most favorable to the non-moving party and draw all justifiable

inferences in its favor. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986).

The Patent Act explicitly states, “A patent shall be presumed valid.” 35 U.S.C. § 282. “[A]ny attack on an issued patent based on a challenge to the eligibility of the subject matter” requires a “high level of proof.” *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1342 (Fed. Cir. 2013). “[A] moving party seeking to invalidate a patent at summary judgment must submit such clear and convincing evidence of facts underlying invalidity that no reasonable jury could find otherwise.” *SRAM Corp. v. AD-II Eng’g, Inc.*, 465 F.3d 1351, 1357 (Fed. Cir. 2006).

DISCUSSION

I. INVALIDITY

Marvell argues that the claims in the ‘747 Patent “recite nothing more than an algorithm for error correction coding that comprises only algorithmic steps, unconnected to any structure or specific application.” Reply (Dkt. No. 148-3) 1 (emphasis omitted). Specifically, Marvell says, “This motion is based on the fact that the claims cover only an abstract idea.” Mot. 7 n.5. Therefore, Marvell concludes, it is not patent eligible under 35 U.S.C. § 101.

A. Section 101 Of The Patent Act

The question of whether subject matter is patent-eligible, “while ultimately a legal determination, is rife with underlying factual issues.” *Ultramercial*, 722 F.3d at 1339. Section 101 of the Patent Act sets forth categories of patent-eligible subject matter and states, “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. “In choosing such expansive terms . . . Congress plainly contemplated that the patent laws would be given wide scope.” *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980). “Congress took this permissive approach to patent eligibility to ensure that ingenuity should receive a liberal encouragement.” *Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010) (citation and internal punctuation omitted).

The Act defines “process” as an “art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.” 35 U.S.C. § 100. “A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of

acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery.” *Diamond v. Diehr*, 450 U.S. 175, 183 (1981) (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)).

“The [Supreme] Court’s precedents provide three specific exceptions to § 101’s broad patent-eligibility principles: ‘laws of nature, physical phenomena, and abstract ideas.’” *Bilski*, 130 S. Ct. at 3225. “The concepts covered by these exceptions are ‘part of the storehouse of knowledge of all men . . . free to all men and reserved exclusively to none.’” *Id.* (quoting *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948)). “The [Supreme] Court has recognized, however, that too broad an interpretation of this exclusionary principle could eviscerate patent law. For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012).

A process that recites nothing more than an abstract idea is not patent-eligible. *Bilski*, 130 S. Ct. at 3229-30. As the Federal Circuit has noted, “Defining ‘abstractness’ has presented difficult problems, particularly for the § 101 ‘process’ category.” *Ultramercial*, 722 F.3d at 1342. “Members of both the Supreme Court and [the Federal Circuit] have recognized the difficulty of providing a precise formula or definition for the abstract concept of abstractness.” *Id.* at 1343.

B. Case Law On Patent Eligibility

There are three central cases that the Supreme Court has highlighted as “guideposts” when considering the exceptions to patent subject matter eligibility under 35 U.S.C. § 101. *Bilski*, 130 S. Ct. at 3231. Two recent opinions by the Court have attempted to apply the principles articulated in the seminal cases. I review these cases in turn.

1. *Gottschalk v. Benson*

In *Gottschalk v. Benson*, 409 U.S. 63 (1972), the Supreme Court held that an algorithm for converting binary-coded decimal numerals into pure binary code was not a patent-eligible “process” because the claim was “so abstract and sweeping” that it could cover usage in a variety of other settings and be performed by any existing or future machinery, or without machinery at all. The Court explained that a “principle” “is a fundamental truth; an original cause; a motive,”

and thus cannot be patented. *Id.* at 67 (quoting *Le Roy v. Tatham*, 55 U.S. 156, 175 (1852)). “[M]ental processes[] and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” *Id.* These unpatentable items include algorithms, i.e., “procedure[s] for solving a given type of mathematical problem.” *Id.* at 65; *Diehr*, 450 U.S. at 186 (“an algorithm, or mathematical formula, is like a law of nature, which cannot be the subject of a patent”). In *Benson*, “the ‘process’ claim [was] so abstract and sweeping as to cover both known and unknown uses.” *Benson*, 409 U.S. at 68. Because the formula for converting binary-coded decimal numerals to pure binary numerals was an abstract idea and “[t]he mathematical formula involved has no substantial practical application except in connection with a digital computer . . . the patent [if found valid] would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.” *Id.* at 71-72. The Court therefore held that the algorithm was not a “process” eligible for patenting.

2. *Parker v. Flook*

In *Parker v. Flook*, 437 U.S. 584 (1978), the Supreme Court considered a procedure for monitoring the catalytic conversion process in the petrochemical and oil-refining industries and held that the claim was not patent eligible because it was too abstract. The claim consisted of three steps: “an initial step which merely measures the present value of the process variable (*e.g.*, the temperature); an intermediate step which uses an algorithm to calculate an updated alarm-limit value; and a final step in which the actual alarm limit is adjusted to the updated value.” *Id.* at 585. The application’s only novel feature was reliance on a mathematical algorithm otherwise implemented by a computer. *Id.* at 588.

The Court noted that “[t]he line between a patentable ‘process’ and an unpatentable ‘principle’ is not always clear.” *Id.* at 589. But while the applicant argued that the mathematical formula was limited to the petrochemical and oil-refining industries, and “the presence of specific ‘post-solution’ activity . . . distinguishes this case from *Benson* and makes [the] process patentable,” the Court rejected “[t]he notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process.” *Id.* at 590. The Court made clear that while “a process is not unpatentable simply

1 because it contains a law of nature or a mathematical algorithm,” the “proper analysis” is whether
 2 “[t]he process itself, not merely the mathematical algorithm,” is “new and useful.” *Id.* at 590-91.
 3 It does not matter that the formula was newly conceived because “[w]hether the algorithm was in
 4 fact known or unknown at the time of the claimed invention, as one of the ‘basic tools of scientific
 5 and technological work, it is treated as though it were a familiar part of the prior art.” *Id.* at 591-
 6 92 (citation omitted). In essence, the Court held that “a claim [merely] for an improved method of
 7 calculation, even when tied to a specific end use, is unpatentable subject matter under § 101.” *Id.*
 8 at 595 n.18. But “[e]ven though a phenomenon of nature or mathematical formula may be well
 9 known, an inventive *application* of the principle may be patented. Conversely, the discovery of
 10 such a phenomenon cannot support a patent unless there is some other inventive concept in its
 11 application.” *Id.* at 594 (emphasis added).

12 **3. *Diamond v. Diehr***

13 In the last case of the trio, *Diamond v. Diehr*, 450 U.S. 175 (1981), the Supreme Court
 14 reviewed a patent for “a process for molding raw, uncured synthetic rubber into cured precision
 15 products,” and concluded that it was patent-eligible because the process combined an abstract
 16 formula with practical steps and limitations. The process involved constantly measuring the
 17 temperature inside the mold, automatically feeding the temperatures into a computer which
 18 repeatedly calculated the necessary cure time using the “Arrhenius equation” (an established
 19 mathematical formula), and opening the press when the elapsed cure time matched the calculated
 20 necessary cure time. The Court found the process patentable because although it involved an
 21 abstract mathematical formula, the formula was integrated with a novel set of steps to be followed
 22 in a particular application. Although the patent “employ[ed] a well-known mathematical equation,
 23 [it did] not seek to pre-empt the use of that equation. Rather, [the applicant sought] only to
 24 foreclose from others the use of that equation *in conjunction with all of the other steps in their*
 25 *claimed process.*” *Id.* at 187 (emphasis added).

26 In finding the patent eligible, the Court reasoned that “a claim drawn to subject matter
 27 otherwise statutory does not become nonstatutory simply because it uses a mathematical formula”
 28 because “an *application* of a law of nature or mathematical formula to a known structure or

process may well be deserving of patent protection.” *Id.* Further, “In determining the eligibility of [a] claimed process for patent protection under § 101, their claims must be considered as a whole.” *Id.* at 188. “This is particularly true in a process claim because a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made.” *Id.*

The Court reiterated that “[a] mathematical formula as such is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment. Similarly, insignificant post-solution activity will not transform an unpatentable principle into a patentable process.” *Id.* at 191-92 (citations omitted). But the Court concluded, “[W]hen a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (*e.g.*, transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.” *Id.* at 192. So long as a claim is not “an attempt to patent a mathematical formula, but rather [is] drawn to [a] process,” it is patent eligible. *Id.*

4. *Bilski v. Kappos*

More recently, the Supreme Court in *Bilski v. Kappos*, 130 S. Ct. 3218 (2010), looked to the preceding cases and invalidated as abstract a patent that claimed a general method for hedging risk in the energy commodities market. There, “Claim 1 [of the patent] describe[d] a series of steps instructing how to hedge risk. Claim 4 put[] the concept articulated in claim 1 into a simple mathematical formula. . . . The remaining claims explain[ed] how claims 1 and 4 can be applied to allow energy suppliers and consumers to minimize the risks resulting from fluctuations in market demand for energy.” *Id.* at 3224.

As an initial matter, the Supreme Court considered the Federal Circuit’s holding that the “machine-or-transformation [(“MOT”)] test . . . is the governing test for determining patent eligibility of a process under § 101.” *In re Bilski*, 545 F.3d 943, 956 (Fed. Cir. 2008). Under the Federal Circuit’s formulation, “A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different

1 state or thing.” *Id.* at 954.

2 In reviewing the Federal Circuit’s decision, the Supreme Court observed, “It is true that
3 patents for inventions that did not satisfy the machine-or-transformation test were rarely granted in
4 earlier eras, especially in the Industrial Age But times change.” *Id.* (citation omitted). This is
5 because “[w]hile machine-or-transformation logic served well as a tool to evaluate the subject
6 matter of Industrial Age processes, that test has far less application to the inventions of the
7 Information Age.” *Ultramercial*, 722 F.3d at 1343. “[T]he machine-or-transformation test is a
8 useful and important clue, an investigative tool, for determining whether some claimed inventions
9 are processes under § 101,” but the Supreme Court held that it “is not the sole test for deciding
10 whether an invention is a patent-eligible ‘process.’” *Bilski*, 130 S. Ct. at 3227. “[T]here are
11 reasons to doubt whether the test should be the sole criterion for determining the patentability of
12 inventions in the Information Age . . . [because] the machine-or-transformation test would create
13 uncertainty as to the patentability of software, advanced diagnostic medicine techniques, and
14 inventions based on linear programming, data compression, and the manipulation of digital
15 signals.” *Id.* Accordingly, the Court held that the Federal Circuit incorrectly concluded that the
16 “machine or transformation” test is the exclusive test for what constitutes a “process” under
17 Section 101. 130 S. Ct. at 3226.

18 Based on *Benson*, *Flook*, and *Diehr*, the Court concluded that the claims were not
19 patentable processes because they were attempts to patent abstract ideas. *Id.* at 3229-30. Because
20 hedging is “a fundamental economic practice long prevalent in our system of commerce and
21 taught in any introductory finance class,” it “is an unpatentable abstract idea, just like the
22 algorithms at issue in *Benson* and *Flook*. Allowing petitioners to patent risk hedging would pre-
23 empt use of this approach in all fields, and would effectively grant a monopoly over an abstract
24 idea.” *Id.* at 3231. The Court also rejected the remaining claims at issue because they were
25 “broad examples of how hedging can be used in commodities and energy markets.” *Id.*

26 **5. *Mayo Collaborative Services v. Prometheus Laboratories, Inc.***

27 Finally, in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289
28 (2012), the Supreme Court held as ineligible claims covering a process to aid doctors in

administering the proper dosage of thiopurine drugs to treat patients with autoimmune disease. In invalidating them, the Court observed that the claims “set forth laws of nature—namely, relationships between concentrations of certain metabolites in the blood and the likelihood that a dosage of a thiopurine drug will prove ineffective or cause harm.” *Id.* at 1296. It said that the proper inquiry is whether the claims “claims add *enough* to their statements of the correlations to allow the processes they describe to qualify as patent-eligible processes that *apply* natural laws.” *Id.* at 1297. The Court reasoned, “If a law of nature is not patentable, then neither is a process reciting a law of nature, unless that process has additional features that provide practical assurance that the process is more than a drafting effort designed to monopolize the law of nature itself.” *Id.* The problem was that “the claims [only] inform a relevant audience about certain laws of nature; [the] additional steps consist of well-understood, routine, conventional activity already engaged in by the scientific community, [which] add nothing significant beyond the sum of their parts taken separately.” *Id.* at 1298.

The Court explained, “a process that focuses upon the use of a natural law [must] also contain other elements or a combination of elements, sometimes referred to as an ‘inventive concept,’ sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the natural law itself.” *Id.* at 1294. The patent in *Mayo Collaborative Services* did not meet that standard. Accordingly, “upholding the patents would risk disproportionately tying up the use of the underlying natural laws, inhibiting their use in the making of further discoveries.” *Id.*

6. Summary Of Case Law

“An abstract idea is one that has no reference to material objects or specific examples—*i.e.*, it is not concrete.” *Ultramercial*, 722 F.3d at 1343. The Federal Circuit succinctly explains, “A claim can embrace an abstract idea and be patentable. Instead, a claim is not patent eligible only if, instead of claiming an *application* of an abstract idea, the claim is instead *to* the abstract idea itself. The inquiry here is to determine on which side of the line the claim falls: does the claim cover only an abstract idea, or instead does the claim cover an application of an abstract idea?” *Id.* (citing *Benson*, *Diehr*, and *Bilski*). “[T]he relevant inquiry is whether a claim, as a whole, includes meaningful limitations restricting it to an application, rather than merely an

abstract idea.” *Id.*; *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013) (Lourie, J.) (citing *Ultramercial*, 722 F.3d at 1344). As the Federal Circuit summarized in a plurality² *en banc* opinion,

The first question is whether the claimed invention fits within one of the four statutory classes set out in § 101. Assuming that condition is met, the analysis turns to the judicial exceptions to subject-matter eligibility. A preliminary question in applying the exceptions to such claims is whether the claim raises § 101 abstractness concerns at all. Does the claim pose any risk of preempting an abstract idea? In most cases, the answer plainly will be no.

CLS Bank Int’l v. Alice Corp. Pty. Ltd., 717 F.3d 1269, 1282 (Fed. Cir. 2013), *cert. granted*, 134 S. Ct. 734 (2013).³ “Where bona fide § 101 concerns arise, however, it is important at the outset to identify and define whatever fundamental concept appears wrapped up in the claim so that the subsequent analytical steps can proceed on a consistent footing.” *Id.* at 1282.

“With the pertinent abstract idea identified, the balance of the claim can be evaluated to

² The Federal Circuit has not conclusively decided what analysis applies in patent eligibility cases concerning process claims. The analysis outlined in the five-judge plurality opinion of *CLS Bank* by Judge Lourie has been called the “integrated approach,” *Planet Bingo, LLC v. VKGS, LLC*, 961 F. Supp. 2d 840, 844 (W.D. Mich. 2013), and has been applied in a subsequent Federal Circuit case, see *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336 (Fed. Cir. 2013) (Lourie, J.). Senior Judge Bryson of the Federal Circuit, who did not take part in *CLS Bank*, recently applied the “integrated approach” when he was sitting by designation on a district court. *TQP Dev., LLC v. Intuit Inc.*, No. 12-cv-180, 2014 WL 651935, at *2 (E.D. Tex. Feb. 19, 2014). At least one district judge has expressly adopted this approach. See *Planet Bingo*, 961 F. Supp. 2d at 845.

On the other hand, in his partial dissent in *CLS Bank*, Chief Judge Rader outlined what has been called the “meaningful limitations” test, for which he was joined by three other judges. *CLS Bank Int’l*, 717 F.3d at 1292; *Planet Bingo*, 961 F. Supp. 2d at 844. (One remaining judge, Judge Newman, wrote his own opinion.) Chief Judge Rader later applied this test when he was part of the two-judge majority in *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335 (Fed. Cir. 2013). Judge Lourie was part of the *Ultramercial* panel, but concurred in the result only and argued that his analysis in *CLS Bank* was more faithful to Supreme Court precedent. One district judge appears to have applied the “meaningful limitations” test but did not address the “integrated approach.” See *Clear with Computers, LLC v. Dick’s Sporting Goods, Inc.*, No. 12-cv-674, 2014 WL 923280 (E.D. Tex. Jan. 21, 2014).

Neither party has addressed this issue or sought to apply either analysis. Nonetheless, given that more judges of the Federal Circuit were persuaded by Judge Lourie’s opinion, I will apply his analysis here. But like the court in *Lumen View Tech. LLC v. Findthebest.com, Inc.*, No. 13-cv-3599, 2013 WL 6164341, at *8 (S.D.N.Y. Nov. 22, 2013), my conclusion remains the same under either analysis: even under Chief Judge Rader’s test, I find that Claims 1 and 10 of the ‘747 Patent places meaningful limitations on the abstract idea claimed.

³ This case was appealed to the Supreme Court, which heard argument on March 31, 2014. The Court has not issued an opinion yet.

determine whether it contains additional substantive limitations that narrow, confine, or otherwise tie down the claim so that, in practical terms, it does not cover the full abstract idea itself.” *Id.* This requires identifying an “inventive concept,” i.e., “a genuine human contribution to the claimed subject matter” or “a product of human ingenuity.” *Id.* at 1283. The analysis “centers on the practical, real-world effects of the claim”— “[I]mitations that represent a human contribution but are merely tangential, routine, well-understood, or conventional, or in practice fail to narrow the claim relative to the fundamental principle therein, cannot confer patent eligibility.” *Id.* False limitations include steps that are “necessary to every practical use of what it found to be a natural law”; “well-understood, routine, conventional activity previously engaged in by researchers in the field”; “vague limitations cast in ‘highly general language’”; and “token or trivial limitations.” *Id.* (citations omitted).

A patent-eligible claim must include elements that add “significantly more” to the basic principle. *Mayo Collaborative Servs.*, 132 S. Ct. at 1297. Methods that “claim[] a mental process standing alone and untied to another category of statutory subject matter” are unpatentable, “even when a practical application [is] claimed.” *In re Comiskey*, 554 F.3d 967, 980 (Fed. Cir. 2009). “The eligibility exclusion for *purely* mental steps is particularly narrow.” *Ultramercial, LLC v. Hulu, LLC*, 657 F.3d 1323, 1329-30 (Fed. Cir. 2011), *judgment vacated on other grounds sub nom. WildTangent, Inc. v. Ultramercial, LLC*, 132 S. Ct. 2431 (2012). Any alleged abstractness “should exhibit itself so manifestly as to override the broad statutory categories of eligible subject matter” under patent law. *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859, 868 (Fed. Cir. 2010). Claims “with specific applications or improvements to technologies in the marketplace are not likely to be so abstract that they override the statutory language and framework of the Patent Act.” *Id.* at 869.

7. Application of Law

I conclude that Marvell has not shown that it is entitled to judgment as a matter of law that Claims 1 and 10 of the ‘747 Patent are not patent-eligible under 35 U.S.C. § 101. As noted above, the ‘747 Patent is presumed to be valid under the patent laws, and Marvell must provide a “high level of proof” to invalidate its claims. *Ultramercial*, 722 F.3d at 1342. Marvell’s burden is to do

1 so by clear and convincing evidence, and it has not succeeded.

2 *CLS Bank* requires that I first ask whether what is claimed fits within one of the four
3 statutory classes set out in § 101. 717 F.3d at 1282. They do. Claim 1 recites “[a] *method* for
4 error-correction coding” and Claim 10 recites “[a] *method* for decoding received digital data
5 elements.” ‘747 Patent 14:46, 15:25-26 (emphases added). Because “methods” fall under the
6 definition of “process,” the claims here are patent-eligible under 35 U.S.C. § 101 unless an
7 exception applies. 35 U.S.C. § 100.

8 The next question is whether what is claimed fits within one of the three judicially created
9 limits on Section 101: is what is claimed a law of nature, natural phenomenon, or an abstract idea
10 and thus excluded from patent eligibility? *Id.* at 1277. “Where bona fide § 101 concerns
11 arise . . . it is important at the outset to identify and define whatever fundamental concept appears
12 wrapped up in the claim so that the subsequent analytical steps can proceed on a consistent
13 footing.” *Id.* at 1282. Claims 1 and 10 of the ‘747 Patent do raise “§ 101 concerns.” In particular,
14 both involve abstract ideas. Claim 1 relates to “error-correction coding” and Claim 10 relates to
15 “decoding.” Neither has “reference to material objects or specific examples,” so they are “not
16 concrete” and are abstract ideas.⁴ *Ultramercial*, 722 F.3d at 1343.

17 Where the patent involves abstract ideas, the animating concern is whether the claims at
18 issue are drawn such that they would preempt the abstract ideas invoked.⁵ A court “must look for
19 meaningful limitations that prevent the claim as a whole from covering the concept’s every
20

21 ⁴ Throughout its briefing, Marvell mainly argues that the claims are invalid because they cover
22 only mathematical ideas or algorithms. Mot. 1. Marvell has not adequately explained how the
23 claims at issue are mathematical formulae or algorithms. However, I will construe Marvell’s
24 argument to mean that the claims are nothing more than abstract ideas.

25 ⁵ Marvell asserts that the abstract idea of the challenged claims “is the combination of specific
26 algorithmic steps recited in Claims 1 and 10—parallel systematic convolutional coding steps
27 where one of the steps uses interleaving to change the order of the data elements being coded and
28 an iterative decoding method where data elements are combined (calculated) with other values,
decoded, and an estimated value is calculated.” Reply 4. Based on this formulation, Marvell
argues that the claims do not add limits to narrow or tie down the claim. Reply 4. While the
Federal Circuit has recognized that identifying an abstract idea can be difficult, *Ultramercial*, 722
F.3d at 1342-43, and defining the scope of the idea will undoubtedly affect the analysis of whether
the claims at issue are patent eligible, Marvell essentially asserts that the entirety of Claims 1 and
10 is the abstract idea without explaining why that is the case. This is insufficient to meet the
“high level of proof” needed to succeed on this motion. *Id.* at 1342.

practical application.” *CLS Bank Int’l*, 717 F.3d at 1281. Here, neither Claim 1 nor Claim 10 fully preempts the abstract idea of “error-correction coding” or “decoding digital data elements.” A close look at the claims shows that they “contain[] additional substantive limitations that narrow, confine, or otherwise tie down the claim so that, in practical terms, [the claims do] not cover the full abstract idea itself.” *Id.* at 1282.

The claims at issue are worth reviewing. Claim 1 discloses “[a] method for error-correction coding of source digital data elements”—not error correction coding generally—and contains two steps. The first step itself includes “two independent and parallel steps of convolutional coding, each of said coding steps taking account of all of said source data elements.” Each step then “provid[es] parallel outputs of distinct series of coded data elements.” During claim construction, I construed “convolutional coding” as “coding that associates to each source data element at least one coded data element which is a combination of the source data element and at least one previous source data element,” *France Telecom*, 2014 WL 1007449, at *3, and “systematic convolutional coding” as “convolutional coding where the output includes both the coded data and the current input data,” *id.* at *5. By adopting Marvell’s proposed construction for “systematic convolutional coding,” I rejected France Telecom’s argument that source data elements can be transmitted once to make both steps of convolutional coding “systematic.” *Id.* at *6. Claims 10, on the other hand, discloses “[a] method for decoding received digital data elements” produced by Claim 1 and comprises four steps performed iteratively: (i) in a first iteration, combining the received digital data elements with a predetermined value to form an intermediate data element; (ii) decoding the intermediate data element to produce a decoded data element; (iii) estimating the source data elements by using the decoded data element to produce an estimated data element; and (iv) for all subsequent iterations, combining the received data elements with one of the estimated data elements estimated from an earlier iteration.

These claims will not preempt all applications of an abstract idea. They are limited to one method for “error-correction coding of source digital data elements” and one method for “decoding” those data. ‘747 Patent 14:46-47, 15:25. Claim 1 does not preempt error-correction coding generally, nor does Claim 10 preempt decoding generally. They both provide unique and

1 detailed methods with concrete steps to be applied, and Marvell has provided no evidence that the
 2 steps recited are inherent in error-detection coding or decoding. Unlike the invalidated claims in
 3 *Benson*, *Flook*, and *Bilski*, the claims do not broadly cover some area of error correction or coding,
 4 nor does Marvell argue that it does. They “confine[] the claims to a particular, useful
 5 application,” *Mayo Collaborative Servs.*, 132 S. Ct. at 1300, and the claims “seek only to foreclose
 6 from others the use of [the abstract idea] in conjunction with all of the other steps in their claimed
 7 process,” *Diehr*, 450 U.S. at 187. These are not like the claim in *Benson*, which was “so abstract
 8 and sweeping” that it could cover usage in a variety of other settings. 409 U.S. at 67. Nor are
 9 they as abstract as the three-step alarm system claimed in *Flook*. 437 U.S. at 585. The steps
 10 disclosed are narrow and they confine and tie down the otherwise abstract processes cited—they
 11 are more like the process held patentable in *Diehr*, which was directed to a specific application for
 12 curing rubber despite use of an underlying fundamental principle.

13 The claims also provide “inventive concepts” that exceed the prior art, namely, coding in
 14 parallel and a novel method of iterative coding. As the Federal Circuit said, “An ‘inventive
 15 concept’ in the § 101 context refers to a genuine human contribution to the claimed subject
 16 matter.” *CLS Bank Int’l*, 717 F.3d at 1282. The ‘747 Patent’s detailed description explains that
 17 the claims disclose methods different from what was known or done before. Primarily, the patent
 18 recites “a coding method simultaneously carrying out several coding operations, in parallel, and a
 19 method of iterative coding.” ‘747 Patent 7:31-34. The systematic convolutional coding in Claim
 20 1 is therefore “contrary to the known convolutional coding methods which take direct account of
 21 the series of the preceding source values.” ‘747 Patent 8:51-53. Similarly, “[t]he essential
 22 advantage of th[e] iterative [decoding] method is that it enables the making of modular decoders.”
 23 ‘747 Patent 10:32-33. Based on the evidence in the record, there is no genuine dispute that the
 24 ‘747 Patent was revolutionary and disclosed a novel process.

25 While error-correction coding and decoding generally may be “disembodied fundamental
 26 concept[s],” the steps disclosed in Claims 1 and 10 provide the necessary “substantive claim
 27 limitations beyond the mere recitation” of those concepts. *CLS Bank Int’l*, 717 F.3d at 1282.
 28 Further, there is no evidence that what is disclosed by those claims are not in fact “a product of

human ingenuity.” *CLS Bank Int’l*, 717 F.3d at 1282. The steps in these claims do not “consist of well-understood, routine, conventional activity already engaged in by the scientific community; [which], when viewed as a whole, add nothing significant beyond the sum of their parts taken separately.” *Mayo Collaborative Servs.*, 132 S. Ct. at 1298. They perform a specific function—that of error correction in coding and decoding. They are not simply claims to an abstract idea with the instruction to “apply it,” nor do the claims use “claim drafting strategies that attempt to circumvent the basic exceptions to § 101 using, for example, highly stylized language, hollow field-of-use limitations, or the recitation of token post-solution activity.” *CLS Bank Int’l*, 717 F.3d at 1281, 1291 (citation omitted).

Finally, although the MOT test is a non-dispositive factor for patent eligibility, I am not persuaded that Claims 1 and 10 fail the test as a matter of law. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1371 (Fed. Cir. 2011) (“the Supreme Court has made clear that a patent claim’s failure to satisfy the machine-or-transformation test is not dispositive of the § 101 inquiry”). To be sure, the claims seem to fail the “machine” prong of the test because there is nothing in the claims that identifies “a concrete thing, consisting of parts, or of certain devices and combination of devices.” *SiRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319, 1332 (Fed. Cir. 2010). But they appear to “effect[] meaningful transformation” because they “chang[e] the content” of the source data elements. *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, No. 12-cv-1673, 2014 WL 718153, at *4 (Fed. Cir. Feb. 26, 2014). As the Federal Circuit explained, “Purported transformations or manipulations simply of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances.” *In re Bilski*, 545 F.3d at 963. In this case, Claim 1 takes digital data elements and turns them into a “distinct series of coded data elements,” which Claim 10 in turn decodes. ‘747 Patent 14:46-47. The digital data elements are “representative” and likely meet the transformation prong of the MOT test articulated in *In re Bilski*.⁶ Regardless of whether the MOT test is met, however, it is

⁶ *In re Bilski* states, “So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a *visual* depiction that

but one part of the analysis for patent eligibility, and I find that the remainder of the analysis is sufficient to support my ultimate conclusion.

Based on the evidence before me, I do not find abstractness in Claims 1 and 10 that “exhibit[s] itself so manifestly as to override the broad statutory categories of eligible subject matter” in the Patent Act. *Research Corp. Techs.*, 627 F.3d at 868. Marvell fails to show as a matter of law that Claims 1 and 10 fall under the “abstract idea” exception to Section 101 eligibility.⁷

8. Marvell’s Arguments

Marvell attacks the validity of the patent in several ways. None succeed.

First, citing *Bancorp Services, L.L.C. v. Sun Life Assurance Co. of Canada (U.S.)*, 687 F.3d 1266, 1279-80 (Fed. Cir. 2012), Marvell argues that Claim 1 “does nothing more than recite mere mathematical computations (addition) and re-ordering of data” and is similar to the ineligible claim in *Bancorp*, “which recites a method for performing repetitive calculations to establish inputs for an equation to value life insurance policies.” Mot. 13. There, the patents at issue “attempt[ed] to patent the use of the abstract idea of managing a stable value protected life insurance policy and then instruct[ed] the use of well-known calculations to help establish some of the inputs into the equation.” *Bancorp Servs.*, 687 F.3d at 1278 (internal punctuation omitted).

Bancorp Services is distinguishable. There, the Federal Circuit already assumed that the “managing [of] a stable value protected life insurance policy” was an abstract idea and that limiting the idea to being performed on a computer does not “salvage an otherwise patent-ineligible process.” *Id.* at 1278. There is no such assumption here. The court stated, “Bancorp’s

represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.” 545 F.3d at 963 (emphasis added). In so stating, because the Federal Circuit was discussing a case involving claims related to transforming data into computer images, I do not understand this principle to mean that all claims meeting the “transformation” prong of the MOT test must involve only visual depictions.

⁷ As the Federal Circuit has said, claims “with specific applications or improvements to technologies in the marketplace are not likely to be so abstract that they override the statutory language and framework of the Patent Act.” *Research Corp. Techs.*, 627 F.3d at 869. The technology disclosed in the ‘747 Patent appears to have had broad commercial application since its filing over two decades ago. This is an additional reason to find that Section 101 covers the methods disclosed in Claims 1 and 10.

1 claimed abstract idea impermissibly preempts the mathematical concept of managing a stable
 2 value protected life insurance policy.” *Id.* at 1280 (internal punctuation omitted). Analogizing to
 3 the patent for hedging risk in the energy market in *Bilski*, the Federal Circuit observed that “the
 4 fact that the required calculations could be performed more efficiently via a computer does not
 5 materially alter the patent eligibility of the claimed subject matter.” *Id.* at 1278. Similarly, the
 6 court rejected Bancorp’s argument that the claims were not abstract because their use was limited
 7 to the life insurance market since “*Flook* established that limiting an abstract idea to one field of
 8 use . . . did not make the concept patentable.” *Bilski*, 130 S. Ct. at 3231. But as explained above,
 9 the ‘747 Patent does not preempt the fields of error-correction coding and decoding. While the
 10 fields themselves may be abstract, Claims 1 and 10 prescribe particular *methods* of applying the
 11 ideas. As the Supreme Court noted in *Diehr*, “an *application* of a law of nature or mathematical
 12 formula to a known structure or process may well be deserving of patent protection.” 450 U.S. at
 13 187. That principle applies to the claims at issue here.⁸

14 Second, Marvell argues that this is a case like *CyberSource Corp. v. Retail Decisions, Inc.*,
 15 654 F.3d 1366, 1370-73 (Fed. Cir. 2011), in which “a method for verifying the validity of a credit
 16 card transaction over the Internet” was found not patent-eligible because the “method steps can be
 17 performed in the human mind, or by a human using a pen and paper,” because here, “the asserted
 18 claims recite algorithmic steps that can be performed by a human using pen and paper.” Mot. 13
 19 (citing Min Decl. ¶¶ 29-39, 42-46 and *Compression Tech. Solutions LLC v. EMC Corp.*, No. 12-
 20 cv-1746-RMW, 2013 WL 2368039, at *5-6 (N.D. Cal. May 29, 2013) (“broad patent claims can
 21 be completed entirely in the human mind or with a little help from pencil and paper”)).

22 In *Cybersource*, the Federal Circuit addressed Claim 3 of the patent at issue: “A method
 23 for verifying the validity of a credit card transaction over the Internet comprising the steps of: a)
 24 obtaining information about other transactions that have utilized an Internet address that is

25
 26 ⁸ Marvell also cites to *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, No. 2012-1673,
 27 2014 WL 718153, at *2 (Fed. Cir. Feb. 26, 2014), which held a method of “collecting information
 28 in classified form, then separating and transmitting that information according to its classification,
 is an abstract idea that is not patent-eligible.” Marvell argues that the ‘747 Patent also “recite[s]
 an abstract idea involving the mere manipulation of information” and should be patent ineligible.
 Mot. 14. That case is distinguishable for the same reason *Bancorp Services* is distinguishable.

1 identified with the [] credit card transaction; b) constructing a map of credit card numbers based
 2 upon the other transactions and; c) utilizing the map of credit card numbers to determine if the
 3 credit card transaction is valid.” 654 F.3d at 1370. The court stated, “It is clear that unpatentable
 4 mental processes are the subject matter of claim 3. All of claim 3’s method steps can be
 5 performed in the human mind, or by a human using a pen and paper.” *Id.* at 1372. It explained
 6 that “[m]ethods which can be performed entirely in the human mind are unpatentable not because
 7 there is anything wrong with claiming mental method steps as part of a process containing non-
 8 mental steps, but rather because computational methods which can be performed *entirely* in the
 9 human mind are the types of methods that embody the ‘basic tools of scientific and technological
 10 work’ that are free to all men and reserved exclusively to none.” *Id.* at 1373 (quoting *Benson*, 409
 11 U.S. at 67).

12 Marvell’s citation to *Cybersource* does not help it. Marvell has not shown by clear and
 13 convincing evidence that the steps recited in Claims 1 and 10 “can be performed in the human
 14 mind, or by a human using a pen and paper.” Its expert asserts that the steps in Claim 1 “could be
 15 performed mentally” and “can be done by a human.” Min. Decl. ¶¶ 32, 37. Similarly, he contends
 16 that Claim 10 “might be performed mentally (or manually by hand).” Min. Decl. ¶ 47. But
 17 Marvell’s expert is directly controverted by France Telecom’s expert, who urges that Claims 1 and
 18 10 “could not be performed by a human.” Mitzenmacher Decl. ¶¶ 56, 59. While France
 19 Telecom’s expert allowed in a deposition that systematic convolutional coding could be done by
 20 hand, he clarifies in his declaration that such coding could only be “emulate[d].” Mitzenmacher
 21 Decl. ¶ 56. More importantly, he has not conceded that the remainder of Claims 1 and 10 can
 22 either be performed mentally or by a human. This is a material issue of fact sufficient to defeat
 23 summary judgment. *See TQP Dev., LLC v. Intuit Inc.*, No. 12-cv-180, 2014 WL 651935, at *5
 24 (E.D. Tex. Feb. 19, 2014) (Bryson, J.) (“While the defendants assert that the encryption and
 25 decryption process can be performed in the human mind or with pencil and paper, TQP has
 26 offered evidence to the contrary, in the form of an expert’s declaration That factual dispute by
 27 itself is enough to foreclose the entry of summary judgment in the defendants’ favor on the present
 28 record.”).

1 Third, Marvell argues that Claims 1 and 10 do not meet the transformation prong of the
 2 MOT test because the “mere manipulation of data” is insufficient to do so. Analogizing to
 3 *Bancorp Services*, 687 F.3d at 1278, where the Federal Circuit affirmed the district court’s
 4 conclusion that the claims do not effect a transformation since they “do not transform the raw data
 5 into anything other than more data and are not representations of any physically existing objects,”
 6 Marvell asserts that the ‘747 Patent’s claims “do not effect a transformation but merely calculate
 7 coded data elements using source data elements.” Mot. 16. Claim 1 merely recites “implementing
 8 at least two independent and parallel steps of systematic convolutional coding” and “temporally
 9 interleaving” data elements, and Claim 10 simply recites an iterative process of “combining,”
 10 “decoding,” and “estimating” data elements. Thus, Marvell argues, the asserted claims do not
 11 meet the transformation prong. Mot. 16-17.

12 Again, *Bancorp Services* is distinguishable. That case involved “systems and methods for
 13 administering and tracking the value of life insurance policies in separate accounts.” *Bancorp*
 14 *Servs.*, 687 F.3d at 1269. Analogizing to the claims in *Bilski* for hedging risk in the energy
 15 market, the Federal Circuit held that “the claims do not effect a transformation” and the MOT test
 16 was not satisfied. *Id.* at 1278. But the patents in both *Bancorp Services* and *Bilski* only “instruct”
 17 the use of “well-known” equations and techniques for making “repetitive calculations.” *Id.* Those
 18 cases involved claims that “simply state [a] law of nature while adding the words ‘apply it.’”
 19 *Mayo Collaborative Servs.*, 132 S. Ct. at 1294 (2012). To characterize the methods disclosed in
 20 Claims 1 and 10 as “calculations” based on well-known formulae misunderstands the fact that the
 21 claims in the ‘747 Patent are “inventive *application[s]* of [] principle[s that] may be patented.”
 22 *Flook*, 437 U.S. at 594. The claims explain how to perform a particular method of error correction
 23 and decoding—they do not simply identify an abstract idea and instruct the reader to apply the
 24 idea.

25 The decision of Judge Bryson of the Federal Circuit in *TQP Development, LLC v. Intuit*
 26 *Inc.*, No. 12-cv-180, 2014 WL 651935 (E.D. Tex. Feb. 19, 2014), is especially instructive. That
 27 case involved a patent for making electronic computer communications more effective and secure
 28 through the use of encryption. *Id.* at *7. Applying the “transformation” prong of the MOT test,

Judge Bryson noted, “Typically, transforming data from one form to another does not qualify as the kind of transformation that the Supreme Court in *Bilski* regarded as an important indicator of patent eligibility.” *Id.* at *5 (citing *CyberSource*, 654 F.3d at 1375 (“[T]he mere manipulation or reorganization of data . . . does not satisfy the transformation prong.”)). “In the case of an invention in the field of encryption, however, the entire object of the invention is to transform data from one form into another In that setting, it does not make sense to say that the transformation of data from one form to another cannot qualify as a patent-eligible invention, because that is what the field of cryptology is all about.” *Id.* The judge further explains that while “[t]here are some seeming similarities between this case and several other cases in which the Supreme Court or the Federal Circuit have found claims patent ineligible under section 101,” such as *Bilski* and *Bancorp Services*, the similarities are “superficial” because the claims in those cases “would have broadly preempted commonplace practices in business [] and other fields.” *Id.* at *6. The patent at issue “involves a method for changing data in a way that will affect the communication system itself, by making it more secure. Thus, although the invention in this case does not result in the physical transformation of matter of the sort involved, for example, in *Diamond v. Diehr*, 450 U.S. 175 (1981) (method for curing rubber), it involves a specific system for modifying data that has equally concrete and valuable effects in the field of electronic communications.” *Id.* at 7.

Here, the purpose of the ‘747 Patent is to disclose a method for more accurate and efficient data transmission. This case is more like *TQP Development* than the other cases cited by Marvell. To invalidate the Claims 1 and 10 based on an overly narrow reading of those cases would go against the *CLS Bank* plurality’s observation that Supreme Court precedents “urge a flexible, claim-by-claim approach to subject-matter eligibility that avoids rigid line drawing” as opposed to “overly formalistic approaches to subject-matter eligibility that invite manipulation by patent applicants.” *CLS Bank*, 717 F.3d at 1281. As the panel stated, “Bright-line rules may be simple to apply, but [] are often impractical and counterproductive when applied to § 101” and “outdated in the face of continual advances in technology.” *CLS Bank*, 717 F.3d at 1281. Claims 1 and 10 of the ‘747 Patent meet the eligibility standard under the patent laws.

II. EXTRATERRITORIAL SALES

Marvell argues that France Telecom is not entitled to damages for chips sold by MAPL, which is not a party in this action, because MAPL is a separate legal entity and because there is no liability under United States patent law for infringement that occurs abroad.⁹ Mot. 1, 17. Conversely, France Telecom argues that the proper measure of damages is a hypothetical negotiation that asks what royalty the parties would have agreed to involving MAPL's foreign sales by assessing factors listed in *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

A. Applicable Law

35 U.S.C. § 271(a) states, "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." "It is axiomatic that U.S. patent law does not operate extraterritorially to prohibit infringement abroad." *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348, 1371 (Fed. Cir. 2013). The patent laws "do not [] provide compensation for a defendant's foreign exploitation of a patented invention, which is not infringement at all." *Id.* A party "has no claim to any compensation for the profit or advantage [an alleged infringing] party may derive from [the infringement]." *Brown v. Duchesne*, 60 U.S. 183, 196 (1856). "Patent infringement damages, therefore, must compensate only for the consequences of domestic activities." *Oracle Am., Inc. v. Google Inc.*, 798 F. Supp. 2d 1111, 1118 (N.D. Cal. 2011) (Alsup, J.).

"To infringe a method claim, a person must have practiced all steps of the claimed method." *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1317 (Fed. Cir. 2009). "It is the general rule under United States patent law that no infringement occurs when a patented product is made and sold in another country." *Microsoft Corp. v. AT & T Corp.*, 550 U.S. 437, 441 (2007). "The presumption that United States law governs domestically but does not rule the world applies

⁹ Marvell also argues that "it is likely the Court does not have personal jurisdiction over MAPL and it would be prejudicial for the Court to exercise jurisdiction over MAPL and its activities here, especially when France Telecom has been on notice of MAPL's sales since at least July 19, 2013." Mot. 17 n.7.

with particular force in patent law.” *Id.* at 445-46. “Mere knowledge that a product sold overseas will ultimately be imported into the United States is insufficient to establish liability under section 271(a).” *MEMC Elec. Materials, Inc. v. Mitsubishi Materials Silicon Corp.*, 420 F.3d 1369, 1377 (Fed. Cir. 2005); *MediaTek Inc. v. Freescale Semiconductor, Inc.*, No. 11-cv-5341-YGR, 2014 WL 580836 (N.D. Cal. Feb. 13, 2014).

“Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.” 35 U.S.C. § 284. “Litigants routinely adopt several approaches for calculating a reasonable royalty. The first, the analytical method, focuses on the infringer’s projections of profit for the infringing product.” *Lucent Techs.*, 580 F.3d at 1324. “The second, more common approach, called the hypothetical negotiation or the ‘willing licensor-willing licensee’ approach, attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began.” *Id.* (citing *Georgia-Pacific*, 318 F. Supp. at 1120). “The hypothetical negotiation tries, as best as possible, to recreate the *ex ante* licensing negotiation scenario and to describe the resulting agreement. In other words, if infringement had not occurred, willing parties would have executed a license agreement specifying a certain royalty payment scheme. The hypothetical negotiation also assumes that the asserted patent claims are valid and infringed.” *Id.*

B. Application Of Law

Marvell is entitled to judgment as a matter of law that France Telecom is not entitled to damages based on foreign sales by MAPL. Marvell is not liable for the actions of a third party, nor is it liable for infringement that occurred abroad.

1. Marvell is not liable for the actions of a third party.

As an initial matter, the parties do not dispute that MAPL is a separate legal entity from Marvell. *See* Matukaitis Decl. ¶¶ 3, 10-11. Based on the Complaint and the evidence in the record, there is no basis for holding Marvell liable for any infringing activities by MAPL.

France Telecom responds that there is an issue of fact because “[t]here was no legal

impediment to the parties['] voluntarily agreeing in a hypothetical negotiation to make France Telecom's reasonable royalty independent of the legal entities or instrumentalities through which Marvell effected sales." Opp'n (Dkt. No. 142-3) 20-21. [REDACTED]

[REDACTED]¹⁰

France Telecom's argument is weak and does not create a *genuine* issue of material fact.

See Celotex Corp., 477 U.S. at 324. That France Telecom [REDACTED] [REDACTED] is too attenuated a basis for letting the jury decide that Marvell would have agreed to subject itself to damages caused by a separate legal entity.¹¹ France Telecom cannot create an issue of fact simply by speculating without any factual support that Marvell would undertake such an obligation.

2. Marvell is not liable for infringement that occurred abroad.

Even if Marvell can be responsible for MAPL's actions, Marvell is not liable for any infringement that occurs outside the United States. *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, is directly on point. There, the Federal Circuit made it unequivocally clear that the patent laws do not prohibit infringement abroad and therefore do not provide "damages adequate to compensate" for such infringement. *Power Integrations*, 711 F.3d at 1371 (Fed. Cir. 2013). In that case, the court rejected the plaintiff's argument that, "having established one or more acts of direct infringement in the United States, [the plaintiff] may recover damages

¹⁰ France Telecom exaggerates this testimony: all that the deponent stated was that Marvell would reroute purchase orders from one particular customer to MAPL, not that it broadly "facilitated the sale of Marvell Chipsets even for its affiliates."

¹¹ France Telecom also does not assert that Marvell should be liable under an alter-ego theory, so there is no basis for holding Marvell liable for any infringement by MAPL. *Cf. Tegal Corp. v. Tokyo Electron Co., Ltd.*, 248 F.3d 1376, 1380 (Fed. Cir. 2001) ("In the absence of evidence showing that the parent company either was an alter ego of the subsidiary or controlled the conduct of the subsidiary, we refuse[] to find direct infringement.").

for [the defendant]’s worldwide sales of the patented invention because those foreign sales were the direct, foreseeable result of [the defendant]’s domestic infringement.” *Id.* In particular, it stated that the defendant had “not cited any case law that supports an award of damages for sales consummated in foreign markets, regardless of any connection to infringing activity in the United States.” *Id.* The law also does not provide damages for infringement that originates domestically because “the entirely extraterritorial production, use, or sale of an invention patented in the United States is an independent, intervening act that, under almost all circumstances, cuts off the chain of causation initiated by an act of domestic infringement.” *Id.* at 1371-72.

The Supreme Court is equally clear that the patent laws do not have extraterritorial effect. As it said in *Microsoft Corp. v. AT&T Corp.*, “The traditional understanding that our patent law operates only domestically and does not extend to foreign activities is embedded in the Patent Act itself” 550 U.S. at 455 (citation and internal punctuation omitted). “In short, foreign law alone, not United States law, currently governs the manufacture and sale of components of patented inventions in foreign countries.” *Id.* at 456. If France Telecom “desires to prevent copying in foreign countries, its remedy today lies in obtaining and enforcing foreign patents.” *Id.*

There is no dispute that MAPL produced, sold, and shipped the accused chips from outside the United States. Matukaitis Decl. ¶¶ 12-13, 16. Under *Power Integrations*, because all these activities occurred abroad, France Telecom is not entitled to any damages based on the accused chips. France Telecom argues, however, that (i) the ‘747 Patent was infringed each time an accused chip was used in the United States (even if it was originally sold abroad), (ii) “Marvell” advertised its devices as suitable for use worldwide, and (iii) “Marvell” [REDACTED] in the United States.¹² Opp’n 18. But none of that would make Marvell liable as *Power Integrations* states that the foreign production or sale of an otherwise infringing product

¹² Marvell claims that “the majority of the development activities for the accused chips ([REDACTED]), not by Marvell in the United States. Mot. 19 (citing Rothmann Decl. ¶¶ 5-6). “[REDACTED]” [REDACTED] Mot. 19-21 & 20 n.9 (citing Rycroft Decl. Ex. 7, Rothmann Dep. Tr. 101:22-102:25, 105:21-107:4, 108:7-13, 110:17-111:4, 115:22-24, 118:11-20, 122:5-15, 123:9-125:17; Rothmann Decl. ¶¶ 5-10).

renders it not actionable. 711 F.3d at 1371-72. Accordingly, France Telecom is not entitled to any damages or royalties based on infringement that occurred abroad.

France Telecom argues that *Power Integrations* is inapposite because the court there considered lost profits as opposed to reasonable royalties calculated by assessing a hypothetical negotiation. Opp’n 22. “Instead, France Telecom contends that, in a hypothetical negotiation . . . the parties would have agreed, under [] *Georgia Pacific*,” to a royalty. Opp’n 22. That argument is misplaced. *Power Integrations*’s occasional reference to “lost profits” is immaterial to the underlying principle, which was that a plaintiff is not entitled to damages for patent infringement that occurred abroad. Indeed, the plaintiff in *Power Integrations* sought a “lump sum reasonable royalty,” but was denied all recovery based on the foreign infringement. 711 F.3d at 1369-71. More importantly, France Telecom cites no authority for the proposition that a hypothetical negotiation can or should include foreign sales that would not otherwise be actionable.¹³

As one court observed, “[W]hile we recognize that the determination of a reasonable royalty envisions a hypothetical license negotiation between the infringer and the patent owner, using factors delineated in *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F.Supp. 1116, 1119–20 (S.D.N.Y. 1970), none of those factors support a conclusion that [the defendant] would pay for the right to engage in foreign sales it already has a legal right to make. Accordingly, we conclude that [the defendant’s] foreign sales may not be taken into account in any determination of a reasonable royalty.” *Enpat, Inc. v. Microsoft Corp.*, 6 F. Supp. 2d 537, 539-40 (E.D. Va. 1998). Indeed, *Power Integrations* made reference to a “hypothetical royalty negotiation” while discussing another issue related to damages, but neither the court nor the parties raised the possibility of a royalty based on foreign sales.¹⁴ 711 F.3d at 1379.

¹³ At the motion hearing, I asked France Telecom’s counsel if there was any case that applied the *Georgia-Pacific* framework to infringement outside the United States. He could not identify one besides *Carnegie Mellon Univ. v. Marvell Tech. Group, Ltd.*, No. 09-cv-290, 2013 WL 5332108 (W.D. Pa. Sept. 23, 2013), which is distinguishable since the plaintiff in that case did not seek damages for infringing conduct that occurred beyond the United States.

¹⁴ Marvell argues that any “hypothetical negotiation” must take place between France Telecom and the alleged infringer—here, Marvell—and not non-parties such as MAPL. Reply 13 (citing *Wordtech Sys., Inc. v. Integrated Networks Solutions, Inc.*, 609 F.3d 1308, 1319 (Fed. Cir. 2010).

France Telecom argues that *Microsoft* is irrelevant because it deals only with the narrow question of whether an exported component was “combined” within the meaning of 35 U.S.C. § 271(f) such that configuration of the product outside the United States was actionable. Opp’n 21. While France Telecom is partially correct that the Supreme Court was “addressing” the question France Telecom identified, it is wrong that *Microsoft* is irrelevant or that it “dealt only” with a “narrow question.” *Microsoft* addressed whether the alleged infringer “without authority supplie[d] or cause[d] to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States.” 35 U.S.C. § 271(f). Though the case did not address damages or royalties, the Supreme Court spoke broadly about the applicability (or lack thereof) of United States patent law extraterritorially and stated that “[a]ny doubt that [the defendant’s] conduct falls outside § 271(f)’s compass would be resolved by the presumption against extraterritoriality.” That same presumption applies in this case.

Two other cases involving Marvell have addressed whether Marvell is liable for extraterritorial sales. In *Lake Cherokee Hard Drive Technologies, L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 657 (E.D. Tex. 2013), the court granted Marvell’s “motion for summary judgment of no liability on sales transacted by MAPL . . . with respect to products shipped [from outside the United States] to customers located outside the United States and which never reach the domestic United States market.” *Lake Cherokee* did not address *Power Integrations* and relied primarily on *Microsoft* and *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296 (Fed. Cir. 2010), as authority. *Transocean* persuaded the *Lake Cherokee* court to conclude, despite certain factual differences between that case and the one before it, that an infringing product that was both manufactured and delivered outside the United States was not actionable under the 35 U.S.C. § 271(a). *Lake Cherokee*, 964 F. Supp. 2d at 657-58. However, the court denied summary judgment “with respect to accused

(“A reasonable royalty can be calculated from . . . a hypothetical negotiation between the patentee and infringer.”)).

products that ultimately reach the United States market and compete domestically with the rights of the patent holder.” *Id.* at 658. While I agree with the first holding, the latter holding is not persuasive given the Federal Circuit’s instruction in *Power Integrations* that “the entirely extraterritorial production, use, or sale of an invention patented in the United States is an independent, intervening act that, under almost all circumstances, cuts off the chain of causation initiated by an act of domestic infringement.” 711 F.3d at 1371-72.

In the other case, *Carnegie Mellon Univ. v. Marvell Tech. Group, Ltd.*, No. 09-cv-290, 2013 WL 5332108 (W.D. Pa. Sept. 23, 2013), the court found *Power Integrations* and *Lake Cherokee* inapplicable in a post-trial order.¹⁵ In an earlier summary judgment order issued before *Power Integrations* was decided, the court allowed damages based on “extraterritorial conduct” to be included in the final calculation. *Id.* at *46. The court later concluded in the post-trial order that *Power Integrations* was distinguishable, observing that the “fact pattern is quite distinct from the facts at hand” because “unlike the situation in *Power Integrations*, CMU [Carnegie Mellon] d[id] not seek ‘damages for injury caused by infringing activity that occurred outside the territory of the United States.’” *Id.* at *47 (quoting *Power Integrations*, 711 F.3d at 1371) (*Carnegie Mellon*’s emphasis). The court emphasized that “CMU has always sought damages for domestic infringement resulting from Marvell’s use of the patented methods during research, development, chip design, qualification, use of engineering samples, continuous evaluation and indirect infringement by end users in the United States” and “[t]here was ample evidence presented at trial to establish that these infringing activities occur[red] in the United States.” *Id.* at *48. At trial, Marvell had made a strategic decision to present almost no evidence to the jury of any activity that occurred outside the United States.¹⁶ *Id.* at *52. The record did not support the exclusion of any damages based on extraterritoriality. For that reason, the court also concluded that *Lake Cherokee*

¹⁵ Marvell notes that it will be appealing the ruling. Mot. 21 n.12.

¹⁶ The court stated, “Not a single purchase order, nor delivery receipt, nor any revenue data was introduced by Marvell. No Marvell witness testified that activities such as sales, orders, deliveries, or accounting occurred overseas. Marvell’s strategy was ‘all or nothing’ in this case. By choosing to allow CMU to present *all* of the evidence regarding Marvell and its business, Marvell was not able to control the message given to the jury, nor was it able to establish convincing contrasting arguments.” *Carnegie Mellon*, 2013 WL 5332108, at *52.

1 was inapposite because the court there “was presented with undisputed facts regarding Marvell’s
2 foreign activities.” *Id.*

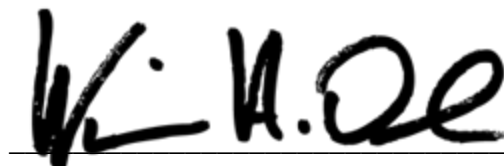
3 Neither *Carnegie Mellon* nor *Lake Cherokee* suggests that France Telecom should be
4 entitled to damages based on foreign sales. While *Lake Cherokee* did not address *Power*
5 *Integrations*, it supports the principle that extraterritorial infringement is not actionable. With
6 regard to *Carnegie Mellon*, Marvell seems to have learned its lesson because it has now put
7 forward undisputed evidence that the manufacturing, sale, and delivery of the accused chips all
8 occurred outside the United States. France Telecom attempts to distinguish *Lake Cherokee* by
9 asserting that the infringement claims in this case are based upon the use of the methods by
10 products that may have entered the United States. Opp’n 22 n.1. That argument is foreclosed by
11 *Power Integrations*’s instruction that “the entirely extraterritorial production, use, or sale of an
12 invention patented in the United States is an independent, intervening act that, under almost all
13 circumstances, cuts off the chain of causation initiated by an act of domestic infringement.” 711
14 F.3d at 1371-72. It is also foreclosed by the Federal Circuit’s suggestion that it is unaware of any
15 “any case law that supports an award of damages for sales consummated in foreign markets,
16 regardless of any connection to infringing activity in the United States.” *Id.* at 1371. Since there
17 is no genuine issue of material fact that all sales of the accused chips happened abroad, France
18 Telecom is not entitled to damages because the chips may ultimately end up and be used in the
19 United States.

20 CONCLUSION

21 Based on the parties’ briefing and argument, Marvell’s motion for summary judgment to
22 invalidate Claims 1 and 10 of the ‘747 Patent is DENIED and its motion for partial summary
23 judgment to preclude damages based on MAPL’s sale of accused chips abroad is GRANTED.

24 **IT IS SO ORDERED.**

25 Dated: April 14, 2014



26
27 WILLIAM H. ORRICK
United States District Judge
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